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University of California
College of Agriculture
Agricultural Experiment Station
Berkeley, California

SEASONAL LABOR NEEDS FOR CALIFORNIA CROPS

VENTURA COUNTY

Progress Report No. 56

by

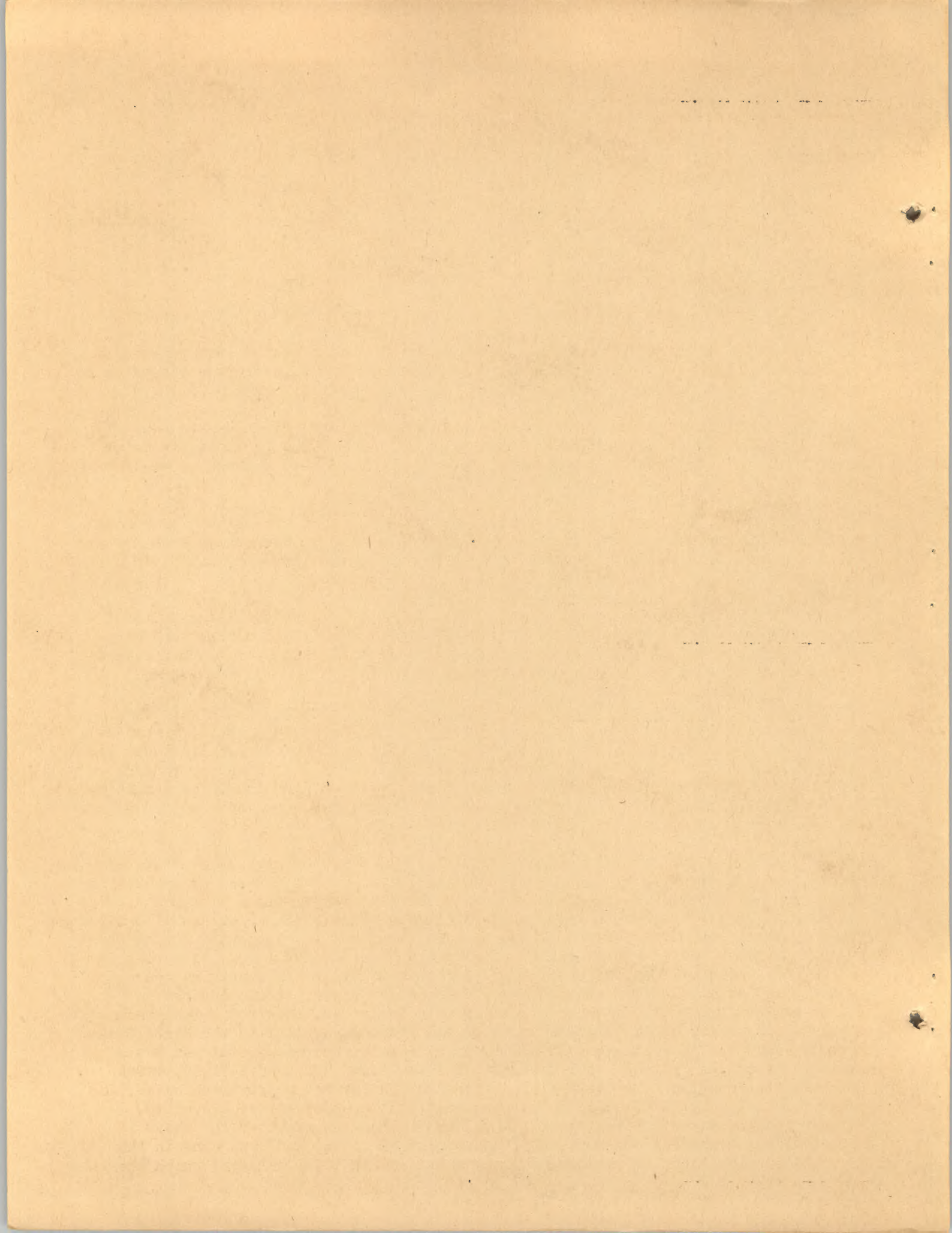
R. L. Adams

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Progress Report No. 56

Seasonal Labor Needs for California Crops

Ventura County

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.
2. The data are confined solely to crops, livestock needs being ignored.
3. The findings apply only to occasional or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.
4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, and harvesting -- without including teamsters, tractor drivers, irrigators, hay balers, threshermen, and shed packers of vegetables or fruits.
5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.
6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems liable to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Ventura County is one of California's southern coast counties, its southeastern corner being about 28 miles northwest of the center of Los Angeles. It is bounded on the southwest by the Pacific Ocean for about 40 miles. On the west it joins Santa Barbara County, the boundary running northward about 36 miles. On the north it is divided from Kern County by a more or less irregular line, which runs in a general east-west direction for about 33 miles. On the east and southeast it joins Los Angeles County.

The agricultural portion lies almost wholly in the southern half of the county, and is largely confined to the valleys of the several rivers and tributaries which drain the area and the coastal plain upon which they emerge. The most important of these is the Santa Clara River Valley which extends for about 40 miles in a northeasterly direction from the vicinity of Oxnard, and is contiguous to the towns of Saticoy, Santa Paula, Fillmore, Piru and other communities. It varies in width from a mile or less, to about 3 miles where it leaves the mountains near Saticoy, and is about 800 feet above sea level in its upper parts. Another important farming district lies along the Arroyo Los Posas, which occupies a somewhat smaller valley about 10 miles south of and roughly parallel to the Santa Clara River Valley, and is contiguous to the towns of Sormis, Moorpark, Simi and Santa Susana. It ranges from 250 to 1,200 feet in elevation. The Oxnard Plain, which lies near the mouth of the Santa Clara River, is the largest nearly level area, and is about 8 miles by 12 miles in extent and mostly under 100 feet in elevation. Another farming district lies along the valley of the Ventura River for about 15 miles inland, averaging somewhat less than a mile in width, and expanding in the northern portion where it is joined by the Santa Ana and Ojai valleys, which are

Seasonal Labor Needs: California Crops

Ventura County

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6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems liable to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Ventura County is one of California's southernmost counties, its southeastern corner being about 25 miles northwest of the center of Los Angeles. It is bounded on the southeast by the Pacific Ocean for about 40 miles. On the west it joins Santa Barbara County, the boundary running northward about 35 miles. On the north it is divided from Kern County by a more or less irregular line, which runs in a general east-west direction for about 25 miles. On the east and southeast it joins Los Angeles County.

The agricultural portion lies almost wholly in the southern half of the county, and is largely confined to the valleys of the several rivers and tributaries which drain the area, and the coastal plain upon which they emerge. The most important of these is the Santa Clara River Valley which extends for about 40 miles in a northerly direction from the vicinity of Oxnard, and is continuous to the town of Baitoy, Santa Paula, Fillmore, Piru and other communities. It varies in width from a mile or less, to about 2 miles where it leaves the mountains near Baitoy, and is about 800 feet above sea level in its upper part. Another important farming district lies along the Arroyo Los Lomas, which occupies a somewhat smaller valley about 10 miles south of and roughly parallel to the Santa Clara River Valley, and is continuous to the towns of Santa Barbara, Santa Maria, and Santa Ynez. It ranges from 250 to 1,200 feet in elevation. The Grand Plain, which lies near the mouth of the Santa Clara River, is the largest nearly level area, and is about 5 miles in extent and mostly under 100 feet in elevation. Another farming district lies along the valley of the Ventura River for about 15 miles inland, averaging somewhat less than a mile in width, and expanding in the northern portion where it is joined by the Santa Ana and Ojai valleys, which are

750 feet and 1,500 feet in elevation, respectively, in their higher portions. Farming is also carried on in several smaller valleys, and to a considerable elevation on the rolling hills in various parts of the county.

The most intensively cultivated soils are of recent alluvial origin, of the Yolo series. They range from clay loam to sand in texture, with fine sandy loam and loam predominating. Several other soils of different series are represented in the hilly parts, some of them heavier in texture than the valley soils.

The county contains a total of 1,189,120 acres of which 180,637 acres are classed as available for crops by the 1935 Census. This is further classified as follows by the census for the crop year, 1934:

	<u>Acreage</u>
Crop land harvested	151,338
Crop failure	2,447
Crop land idle or fallow	10,737
Flowable pasture	16,115
Total	<u>180,637</u>

Crop acreages in 1935 are roughly estimated to have been as follows:

	<u>Acreage</u>
Field crops	97,445
Vegetable crops	7,768
Orchard crops, bearing ¹	52,033
Orchard crops, nonbearing	13,703
	<u>170,949</u>

Crops, Acreages, and Production.-- The basis used in calculating occasional or seasonal need for labor, other than that furnished by farm operators and regularly employed workers appears as table 1.

Production figures are from "Ventura County Crop Report for 1935" by A. H. Call, Agricultural Commissioner. Due to lack of assembled data, acreage figures have been compiled from various sources. Bean acreages are from the California Lima Bean Growers' Association, Oxnard. Alfalfa acreage is an estimate by Mr. Call -- (the 1935 Census reported 6,541 acres.) Endive acreage is an estimate by Crabb Brothers, Oxnard. Tomato acreage is estimated by Thomas Robertson, chairman, Farm Bureau Vegetable Department. Other vegetable acreages are taken from California Cooperative Crop Reporting Service, "Acreage of Specified Commercial Vegetable Crops by Counties -- 1935." Acreages of hay and grain are estimated from the total production on the basis of average yields per acre. Acreages in orchard crops are from a survey recently conducted (May 1, 1936) by the Agricultural Commissioner, and include only bearing acreage.

¹ Orchard acreage is from a survey by the Agricultural Commissioner, released May 1, 1936.

780 feet and 1,800 feet in elevation, respectively, in their higher portions. Farming is also carried on in several smaller valleys, and to a considerable elevation on the rolling hills in various parts of the county.

The most intensively cultivated soils are of recent alluvial origin, of the Yolo series. They range from clay loam to sand in texture, with fine sandy loam and loam predominating. Several other soils of different series are represented in the hilly parts, some of them heavier in texture than the valley soils.

The county contains a total of 1,189,120 acres of which 180,637 acres are classed as available for crops by the 1933 Census. This is further classified as follows by the census for the crop year, 1934:

<u>Acreage</u>	
181,838	Crop land harvested
8,447	Crop failure
10,737	Crop land idle or fallow
16,118	Pasture
180,637	Total

Crop acreages in 1935 are roughly estimated to have been as follows:

<u>Acreage</u>	
17,448	Field crops
7,788	Vegetable crops
52,032	Orchard crops, bearing
18,702	Orchard crops, nonbearing
170,910	

Crops, Acreages, and Production.—The basis used in estimating occasional or seasonal need for labor, other than that furnished by farm operators and regularly employed workers appears as table 1.

Production figures are from "Ventura County Crop Report for 1935" by A. H. Gail, Agricultural Commissioner. Due to lack of assembled data, acreage figures have been compiled from various sources. Some acreages are from the California State Growers' Association, General. All other acreages are an estimate by Mr. Gail -- (the 1935 Census reported 5,041 acres). Field crops are an estimate by Gail Brothers, General. Tobacco acreage is estimated by Thomas Robertson, Chairman, Fruit Division, Ventura County. Other vegetable acreages are taken from California Co-operative Crop Reporting Service, "Acreages of Specialized Commercial Vegetable Crops by Counties -- 1935." Acreages of hay and grain are estimated from the total production on the basis of average yields per acre. Acreages in orchard crops are from a survey recently conducted (May 1, 1935) by the Agricultural Commissioner, and include only bearing acreage.

TABLE 1

Basis for Calculating Seasonal Labor Requirements -- Ventura County

Crops	Acreage	Production
Field crops:		
Beans -- large lima (irrigated)	27,244	476,324 bags
large lima (not irrigated)	13,377	
blackeye (not irrigated)	4,000	36,418 bags
other varieties	2,550	31,057 bags
Grain -- barley		84,414 bags
oats	7,000	6,870 bags
wheat	estimated	9,611 bags
Hay -- alfalfa	6,000	17,500 tons
other than alfalfa	30,000	30,000 tons
Sugar beets	7,274	65,630 tons
Bean straw -- mostly baled		27,000 tons
Vegetable crops:		
Cabbage		22 cars
Carrots -- fall and winter, 1,000	2,350	522 cars of 350 crates = 182,700 packed crates
spring, 1,350		
Cauliflower		7,298 crates
Celery -- summer	200	277 cars of 350 crates = 96,950 packed crates
Endive	150	48 cars of 320 crates = 15,360 packed crates
Lettuce -- spring, 150	200	
fall, 50		
Peas -- spring, 1,500	2,000	151 cars of 651 hampers = 98,301 hampers
fall, 500		
Parsley		9 cars
Peppers -- bell	150	20 cars and) = about 501,620 53,620 pounds) pounds
Pimientos	718	2,100 tons
Tomatoes -- canning	1,200	6,968 tons
marketing and shipping	800	287,242 packed lugs of 32 pounds
Orchard crops:		
Apricots	4,547	2,011 tons dried) = 10,605 tons 550 tons green) green weight
Almonds	317	9 tons nuts and 33,400 pounds meats
Avocados	18,960 trees	448,128 pounds
Lemons	8,662	3,321,716 field boxes of 50 pounds
Oranges	14,025	2,540,563 field boxes of 55 pounds
Grapefruit	212	66,224 field boxes of 40 pounds
Tangerines	41	3,347 boxes (loose)
Grapes	367	726 tons
Walnuts	23,102	11,474 tons merchantable 1,818 tons culls

TABLE I

Basic for Calculating Seasonal Labor Requirements -- Ventura County

Crops	Average	Production
Field crops:		
Beans -- large lima (irrigated)	27,244	475,324 bags
Beans -- large lima (not irrigated)	12,377	
Beans -- small (not irrigated)	4,000	35,418 bags
Beans -- small (irrigated)	2,650	31,057 bags
Other varieties		84,414 bags
Grain -- barley	7,000	5,870 bags
Grain -- oats	estimated	3,811 bags
Grain -- wheat	5,000	17,500 tons
Hay -- alfalfa	30,000	30,000 tons
Other than alfalfa	7,274	22,630 tons
Sugar beets		27,000 tons
Bean acres -- mostly leased		
Vegetable crops:		
Cabbage		22 cars
Carrots -- fall and winter	2,380	525 cars of 350 crates = 182,700 packed crates
Carrots -- spring		4,298 crates
Cauliflower	200	277 cars of 350 crates = 96,975 packed crates
Celery -- summer	150	48 cars of 350 crates = 15,300 packed crates
Native		
Lettuces -- spring, 150	200	
Lettuces -- fall, 50		
Peas -- spring, 1,500	2,000	151 cars of 350 baskets = 52,851 baskets
Peas -- fall, 500		
Parsley	150	9 cars
Peppers -- bell	718	10 cars and "about 501,632 pounds"
Limatoes	1,200	2,100 tons
Tomatoes -- canning	800	6,292 tons
Marketing and shipping		287,242 packed tons of 35 pounds
Orchard crops:		
Apples	2,247	2,011 tons dried, 10,505 tons green weight
Almonds	317	3 tons nuts and 22,400 pounds waste
Avocados	16,980 trees	248,128 pounds
Lemons	6,682	3,321,716 field boxes of 50 pounds
Oranges	16,032	2,840,883 field boxes of 55 pounds
Grapefruit	212	66,224 field boxes of 40 pounds
Tangerines	41	2,347 boxes (large)
Grapes	867	726 tons
Walnuts	22,102	11,474 tons marketable 1,818 tons culls

Operations Requiring Use of Seasonal Labor and Time of Need.--- Farm operations requiring the use of seasonal or occasional labor for the various crops raised in Ventura County are indicated in table 2. This tabulation does not include the employing of shed workers needed to wash, pack, and prepare various commodities for shipping and marketing.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Need by Crops
Ventura County

Crop	Operation	Time of need
Field crops: Alfalfa hay	Mowing Raking Shocking Baling } by regular help	April to November, inclusive, -- 12 per cent of acreage each month
Beans	Hoeing -- average 1 time	June -- 33 per cent of acreage July -- 66 per cent of acreage
	Piling	August 15-30 -- Blackeye acreage September 1-30 -- 25 per cent of lima bean acreage October 1-31 -- 75 per cent of lima bean acreage
	Threshing -- 80 per cent by seasonal workers	September 15-30 -- 20 per cent of crop October 1-31 -- 80 per cent of crop
Grain -- barley oats wheat }	{Harvesting Mostly by combine -- 75 per cent by seasonal workers	June 15-30 -- 30 per cent of crop July 1-31 -- 50 per cent of crop August 1-31 -- 20 per cent of crop
Grain hay	Mowing -- 50 per cent by seasonal workers Raking -- 50 per cent by seasonal workers Shocking -- 50 per cent by seasonal workers Trimming -- 50 per cent by seasonal workers Baling (80 per cent of crop)-- 90 per cent by seasonal workers	May -- 66 per cent of acreage June -- 33 per cent of acreage May -- 40 per cent of tonnage June -- 40 per cent of tonnage July -- 20 per cent of tonnage
Sugar beets	Thinning	February -- 12 per cent of acreage
Bean straw	Baling	September 15-30 -- 25 per cent of tonnage October 1-31 -- 50 per cent of tonnage November 1-15 -- 25 per cent of tonnage

Table continued on next page.

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TABLE 2

Operations Requiring Use of Seasonal Labor and Time of Need by Crops
Ventura County

Crop	Operation	Time of Need
Field crops: Alfalfa hay	Mowing Raking Shocking Baling by regular help	April to November, inclusive -- 15 per cent of average each month
Beans	Mowing -- average 1 time Hilling	June -- 35 per cent of average July -- 65 per cent of average
		August 15-30 -- Blackeye average September 1-30 -- 25 per cent of time bean average October 1-31 -- 75 per cent of time bean average
	Threshing -- 80 per cent by seasonal workers	September 15-30 -- 30 per cent of crop October 1-31 -- 80 per cent of crop
Grain hay Grain hay Grain hay Grain hay	Harvesting Mowing Raking Shocking Baling by combine -- 75 per cent by seasonal workers	June 15-30 -- 30 per cent of crop July 1-31 -- 50 per cent of crop August 1-31 -- 20 per cent of crop May -- 65 per cent of average June-35 per cent of average May -- 40 per cent of average June -- 40 per cent of average July -- 30 per cent of average
Sugar beets	Thinning	November -- 15 per cent of average
Bean straw	Baling	September 15-30 -- 25 per cent of average October 1-31 -- 75 per cent of average November 1-15 -- 25 per cent of average

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need
Vegetable crops: Carrots	Weeding	<p>July -- 10 per cent of acreage August -- 10 per cent of acreage September -- 10.5 per cent of acreage October -- 7.5 per cent of acreage November -- 13.5 per cent of acreage December -- 16 per cent of acreage January -- 25 per cent of acreage February -- 7.5 per cent of acreage</p>
	Harvesting	<p>October -- 2.7 per cent of crop November -- 8.1 per cent of crop December -- 9.2 per cent of crop January -- 10.6 per cent of crop February -- 7.6 per cent of crop March -- 13.6 per cent of crop April -- 15.9 per cent of crop May -- 24.6 per cent of crop June -- 6.3 per cent of crop July -- 1.2 per cent of crop</p>
Celery	Harvesting	<p>January -- 1.5 per cent of crop February -- 4.9 per cent of crop March -- 14.7 per cent of crop April -- 4.5 per cent of crop May -- 25.7 per cent of crop June -- 46.8 per cent of crop</p>
Endive	Thinning	<p>August 15-31 -- 40 per cent of acreage September 1-21 -- 60 per cent of acreage</p>
	Hoeing	<p>September -- 50 per cent of acreage October -- 50 per cent of acreage</p>
	Cutting	<p>November 5-30 -- 25 per cent of crop December 1-31 -- 37 1/2 per cent of crop January 1-31 -- 37 1/2 per cent of crop</p>
Peas	Picking	<p>December -- 5 per cent of crop January -- 51 per cent of crop February -- 44 per cent of crop</p>
Peppers	Hoeing	<p>May 20-31 -- 25 per cent of acreage</p>

Table continued on next page.

July -- 10 per cent of crop
August -- 10 per cent of crop
September -- 10 per cent of crop
October -- 10 per cent of crop

November -- 10 per cent of crop
December -- 10 per cent of crop

January -- 10 per cent of crop
February -- 10 per cent of crop
March -- 10 per cent of crop
April -- 10 per cent of crop
May -- 10 per cent of crop
June -- 10 per cent of crop
July -- 10 per cent of crop
August -- 10 per cent of crop
September -- 10 per cent of crop
October -- 10 per cent of crop
November -- 10 per cent of crop
December -- 10 per cent of crop

January -- 10 per cent of crop
February -- 10 per cent of crop

March -- 10 per cent of crop

April -- 10 per cent of crop
May -- 10 per cent of crop

June -- 10 per cent of crop
July -- 10 per cent of crop

August -- 10 per cent of crop
September -- 10 per cent of crop

Table 2 continued.

Crop	Operation	Time of need
Peppers (continued)	Hoeing	June 1-30 -- 80 per cent of acreage
	Thinning and transplanting	June 1-30 -- 80 per cent of acreage
		July 1-7 -- 20 per cent of acreage
	Picking pimientos	October 1-31 -- 25 per cent of crop
		November 1-30 -- 50 per cent of crop
		December 1-31--25 per cent of crop
Tomatoes -- canning	Picking boll peppers	October -- 85 per cent of crop
		November -- 15 per cent of crop
	Transplanting -- 50 per cent by seasonal workers	May -- 66 per cent of acreage
		June -- 33 per cent of acreage
	Hoeing	June -- 50 per cent of acreage July -- 50 per cent of acreage
Tomatoes -- shipping	Picking	September -- 35 per cent of tonnage
		October -- 50 per cent of tonnage
		November 1-15 -- 15 per cent of tonnage
	Transplanting	June 1-30 -- 66 per cent of acreage
		July 1-15 -- 33 per cent of acreage
Orchard crops: Apricots	Hoeing	July -- 50 per cent of acreage
		August -- 50 per cent of acreage
	Picking*	August -- 3 per cent of crop
		September -- 35 per cent of crop
		October -- 56 per cent of crop November -- 6 per cent of crop
Orchard crops: Apricots	Pruning -- 50 per cent by seasonal workers	October -- 33 per cent of acreage
		November -- 33 per cent of acreage
		December -- 33 per cent of acreage
Orchard crops: Apricots	Picking	June 15-30 -- 10 per cent of crop
		July 1-31 -- 90 per cent of crop

Table continued on next page.

<p>10 June 1941 - 10 June 1941</p> <p>11 June 1941 - 11 June 1941</p> <p>12 June 1941 - 12 June 1941</p>		
<p>13 June 1941 - 13 June 1941</p> <p>14 June 1941 - 14 June 1941</p> <p>15 June 1941 - 15 June 1941</p>	<p>16 June 1941 - 16 June 1941</p> <p>17 June 1941 - 17 June 1941</p> <p>18 June 1941 - 18 June 1941</p>	
<p>19 June 1941 - 19 June 1941</p> <p>20 June 1941 - 20 June 1941</p> <p>21 June 1941 - 21 June 1941</p>	<p>22 June 1941 - 22 June 1941</p> <p>23 June 1941 - 23 June 1941</p> <p>24 June 1941 - 24 June 1941</p>	
<p>25 June 1941 - 25 June 1941</p> <p>26 June 1941 - 26 June 1941</p> <p>27 June 1941 - 27 June 1941</p>	<p>28 June 1941 - 28 June 1941</p> <p>29 June 1941 - 29 June 1941</p> <p>30 June 1941 - 30 June 1941</p>	
<p>1 July 1941 - 1 July 1941</p> <p>2 July 1941 - 2 July 1941</p> <p>3 July 1941 - 3 July 1941</p>	<p>4 July 1941 - 4 July 1941</p> <p>5 July 1941 - 5 July 1941</p> <p>6 July 1941 - 6 July 1941</p>	
<p>7 July 1941 - 7 July 1941</p> <p>8 July 1941 - 8 July 1941</p> <p>9 July 1941 - 9 July 1941</p>	<p>10 July 1941 - 10 July 1941</p> <p>11 July 1941 - 11 July 1941</p> <p>12 July 1941 - 12 July 1941</p>	

Table 2 continued.

Crop	Operation	Time of need
Apricots (continued)	Cutting for drying	June 15-30 -- 10 per cent of crop July 1-31 -- 90 per cent of crop
	Other dry-yard labor	June 15-30 -- 10 per cent of crop July 1-31 -- 90 per cent of crop
Citrus -- lemons	Picking †	November -- 3.6 per cent of crop December -- 7.9 per cent of crop January -- 10.6 per cent of crop February -- 12.2 per cent of crop March -- 12.7 per cent of crop April -- 13.6 per cent of crop May -- 13.2 per cent of crop June -- 9.1 per cent of crop July -- 6.5 per cent of crop August -- 3.9 per cent of crop September -- 3.1 per cent of crop October -- 3.6 per cent of crop
oranges	Picking	November -- 10.7 per cent of crop December -- 1.2 per cent of crop January -- 2.6 per cent of crop February -- 4.1 per cent of crop March -- 4.0 per cent of crop April -- 4.3 per cent of crop May -- 9.4 per cent of crop June -- 11.6 per cent of crop July -- 15.1 per cent of crop August -- 11.7 per cent of crop September -- 12.8 per cent of crop
Grapefruit	Picking	August -- 60 per cent of crop September -- 30 per cent of crop October -- 10 per cent of crop
All varieties	Fumigating -- on 50 per cent of citrus acreage or about 11,450 acres	July 15-31 -- 10 per cent of job August 1-31 -- 25 per cent of job September 1-30 -- 25 per cent of job October 1-31 -- 25 per cent of job November 1-30 -- 15 per cent of job
Walnuts	Harvesting -- by hand	September -- 25 per cent of crop October -- 70 per cent of crop November -- 5 per cent of crop

*Figures are for 1935 crop of shipping tomatoes, which was lighter than usual. A greater proportion is usually harvested in November.

† Lemon picking by months is based on lemon "pick" of the Ventura County Citrus Exchange for the 1934-35 season.

Date	Description	Amount
Jan 1-1911	Balance forward	100.00
Jan 1-1911	To Cash	10.00
Jan 1-1911	By Cash	10.00
Jan 1-1911	To Cash	10.00
Jan 1-1911	By Cash	10.00
Jan 1-1911	To Cash	10.00
Jan 1-1911	By Cash	10.00
Jan 1-1911	To Cash	10.00
Jan 1-1911	By Cash	10.00
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Jan 1-1911	To Cash	10.00
Jan 1-1911	By Cash	10.00
Jan 1-1911	To Cash	10.00
Jan 1-1911	By Cash	10.00
Jan 1-1911	To Cash	10.00
Jan 1-1911	By Cash	10.00

The above is a true and correct copy of the original record as kept by the
 Treasurer of the Board of Education of the City of New York.
 In witness whereof, the seal of the Board of Education is hereunto set.
 At New York, this 1st day of January, 1911.
 Mayor of the City of New York.
 Comptroller of the City of New York.
 Secretary of the Board of Education.

Findings of Seasonal Labor Needs.-- Details and summaries of seasonal labor requirements of Ventura County agriculture are presented as table 3. The "size of task" are figures drawn from table 1 in terms of either acreage or output in tons, crates, boxes, or whatever unit is commonly used. The "output per man-day" is an average figure for the entire acreage or output figured in packed crates, hampers, or boxes (in case of fruits and vegetables). If the work is of a nature that requires a crew different members of which perform different tasks (such as cutting, trimming, loading, and hauling cauliflower; trimming and crating celery, etc.) then the average shown is per man based on the entire crew. Length of day is 9 hours unless otherwise stated. Wide variations in output occur between farm and farm, field and field, and season and season, because of differences in soil types, climatic conditions, weeds, yields, and other factors influencing the amount of work that a laborer can perform in a given day. Moreover, the basis of output is a mature, experienced male worker, without reference to use of women, children, and more or less inexperienced help that is sometimes used in connection with certain of the tasks requiring use of seasonal workers. The column headed "available days" reflects (a) limitations set from the period within which the work must be performed because of the nature of the task, such as transplanting, thinning, weeding, and cutting, and (b) available days as determined by weather conditions, inclement weather reducing the number of days when a required task can be performed. The "required number of individuals" is given in terms of workers as noted above in connection with "output per man-day".

It is probable that the estimated number of workers required, as recorded in table 3, will often be too low for the reason that "peaks" frequently occur during which an unusually large proportion of the job is done in a very short period. This would naturally require a much greater number of workers than when the work is spread over a longer period, even though the total amount of labor (in man-days) remains the same.

TABLE 3

Seasonal Labor Needs -- Ventura County -- by Months and Tasks

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
January	Carrots: Weeding	588 acres	60 hours per acre	3,920	19	207
	Harvesting	19,366 crates	12 packed crates	1,614	19	85
	Celery: Harvesting	1,455 crates	25 crates	59	4	15 (for 4 days)
	Endive: Cutting	5,760 crates	37 crates	156	19	9
	Peas: Picking	50,134 hampers	4 hampers	12,534	19	660
	Citrus -- Lemons:					
	Picking	352,102 field boxes	21 field boxes	16,767	19	883
	Oranges: Picking	66,055 field boxes	30 field boxes	2,202	19	116
February	Totals			37,252	19	1,961 man-months
	Sugar beets: Thin-					
	ning	873 acres	0.5 acre	1,746	23	76
	Carrots: Weeding	176 acres	60 hours per acre	1,174	23	51
	Harvesting	13,855 crates	12 packed crates	1,155	23	51
	Celery: Harvesting	4,750 crates	25 crates	190	14	15 (for 14 days)
	Peas: Picking	43,252 hampers	4 hampers	10,813	23	471
	Citrus -- Lemons:					
March	Picking	405,250 field boxes	23 field boxes	17,620	23	766
	Oranges: Picking	104,163 field boxes	45 field boxes	2,314	23	101
	Totals			35,012	23	1,523 man-months
	Sugar beets:					
	Thinning	1,746 acres	0.5 acre	3,492	24	146
	Hoeing	727 acres	2.5 acres	291	24	13
	Carrots: Harvesting	24,847 crates	12 packed crates	2,071	24	87
	Celery: Harvesting	14,252 crates	25 crates	571	24	24
April	Citrus -- Lemons:					
	Picking	421,858 field boxes	23 field boxes	18,342	24	765
	Oranges: Picking	101,622 field boxes	45 field boxes	2,254	24	94
	Totals			27,021	24	1,126 man-months
	Alfalfa hay: Baling	2,100 tons	4 tons	525	24	22
	Sugar beets:					
	Thinning	3,201 acres	0.5 acre	6,402	24	267
	Hoeing	1,455 acres	2.5 acres	582	24	25

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
April (cont.)	Carrots: Harvesting	29,049 crates	12 packed crates	2,421	24	101
	Celery: Harvesting	4,363 crates	25 crates	175	13	14 (for 13 days)
	Citrus -- Lemons:					
	Picking	451,753 field boxes	28 field boxes	16,134	24	673
	Oranges: Picking	109,244 field boxes	45 field boxes	2,428	24	102
	Totals			28,667	24	1,195 man-months
May	Alfalfa hay: Baling	2,100 tons	4 tons	525	25	21
	Grain hay: Mowing	10,000 acres†	10 acres	1,000	26	39
	Raking	10,000 acres†	20 acres	500	26	20
	Shocking	10,000 acres†	30 acres	333	26	13
	Trimming	10,000 acres†	10 acres	1,000	26	39
	Baling	8,640 tons	3.5 tons	2,469	26	95
	Sugar beets:					
	Thinning	1,164 acres	0.5 acre	2,328	26	90
	Hoeing	2,182	2.5 acres	873	26	34
	Carrots: Harvesting	44,944 crates	12 packed crates	3,746	26	145
	Celery: Harvesting	24,916 crates	25 packed crates	997	26	39
	Peppers: Hoeing	217 acres	2.0 acres	109	9	12 (from 20th to 31st)
	Tomatoes (canning):					
	Transplanting	400 acres†	1.0 acre	400	26	16
	Citrus -- Lemons:					
	Picking	438,467 field boxes	25 field boxes	17,539	26	675
	Oranges: Picking	238,813 field boxes	50 field boxes	4,777	26	184
	Totals			36,596	26	1,408 man-months
June	Alfalfa hay: Baling	2,100 tons	4 tons	525	25	21
	Beans: Hoeing	15,724 acres	2.5 acres	6,290	25	252
	Grain: Harvesting	1,575 acres†	4 acres	394	13	31 (from 15th to 30th)
	Grain hay: Mowing	5,000 acres†	10 acres	500	13	39 (from 1st to 15th)
	Raking	5,000 acres†	20 acres	250	13	20 (from 1st to 15th)
	Shocking	5,000 acres†	30 acres	167	13	13 (from 1st to 15th)
	Trimming	5,000 acres†	10 acres	500	13	39 (from 1st to 15th)

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
June (cont.)	Grain hay: Baling	8,640 tons†	3.5 tons	2,469	25	99
	Sugar beets: Thinning	291 acres	0.5 acre	582	25	24
	Hoeing	2,182 acres	2.5 acres	873	25	35
	Carrots: Harvesting	11,510 crates	12 packed crates	960	25	39
	Celery: Harvesting	45,373 crates	25 crates	1,815	25	73
	Peppers: Hoeing	651 acres	2.0 acres	326	25	14
	Trimming and transplanting	694 acres	0.2 acre	3,470	25	139
	Tomatoes (canning): Transplanting	200 acres†	1 acre	200	25	8
	Hoeing	600 acres	2 acres	300	25	12
	(market): Transplanting	534 acres	3 acres	178	25	8
	Apricots: Picking	1,060 tons	2,000 pounds	1,060	12	89 (from 15th to 30th)
	Cutting for drying	1,005 tons	500 pounds	4,020	12	335 (from 15th to 30th)
	Other labor in dry yards	1,005 tons	11 hours per fresh ton	1,229	12	103 (from 15th to 30th)
	Citrus -- Lemons: Picking	302,276 field boxes	20 field boxes	15,114	25	605
	Oranges: Picking	294,715 field boxes	50 field boxes	5,895	25	236
	Totals			47,117	25	1,885 man-months
July	Alfalfa hay: Baling	2,100 tons	4 tons	525	26	21
	Beans: Hoeing	31,447 acres	2.5 acres	12,579	26	484
	Grain: Harvesting	2,625 acres†	4 acres	657	26	26
	Grain hay: Baling	4,320 tons†	3.5 tons	1,235	26	48
	Sugar beets: Hoeing	727 acres	2.5 acres	291	26	12
	Carrots: Weeding	235 acres	60 hours per acre	1,567	26	61
	Harvesting	2,192 crates	12 packed crates	183	10	19 (for 10 days)
	Peppers: Thinning and transplanting	174 acres	0.2 acre	870	26	34

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
July (cont.)	Tomatoes (canning):					
	Hoeing	600 acres	2.0 acres	300	26	12
	(market): Trans-planting	266 acres	3.0 acres	89	13	7 (from 1st to 15th)
	Hoeing	400 acres	2.0 acres	200	25	8
	Apricots: Picking	9,545 tons	2,000 pounds	9,545	26	368
	Cutting for drying	9,050 tons	500 pounds	36,200	26	1,393
	Other dry-yard labor	9,050 tons	11 hours per fresh ton	11,062	26	426
	Citrus -- Lemons:					
	Picking	215,912 field boxes	12 field boxes	17,993	26	692
	Oranges: Picking	383,625 field boxes	50 field boxes	7,673	26	296
	Fumigating	1,145 acres	0.75 acre	1,527	13	118 (from 15th to 31st)
August	Totals			102,496	26	3,943 man-months
	Alfalfa hay: Baling	2,100 tons	4 tons	525	25	21
	Beans (all Blackeye): Piling	4,000 acres	2 acres	2,000	12	167 (from 15th to 31st)
	Grain: Harvesting	1,050 acres†	4 acres	263	25	11
	Sugar beets: Topping and loading	25,596 tons	4.5 tons	5,688	25	228
	Carrots: Weeding	235 acres	60 hours per acre	1,567	25	63
	Endive: Thinning	60 acres	0.5 acre	120	12	10 (from 15th to 31st)
	Tomatoes (market):					
	Hoeing	400 acres	2.0 acres	200	25	4
	Picking	8,617 packed lugs	2.3 packed lugs	375	14	27 (for 14 days)
	Citrus -- Lemons:					
	Picking	129,547 field boxes	9 field boxes	14,395	25	576
	Oranges: Picking	297,246 field boxes	40 field boxes	7,432	25	298
	Grapefruit: Picking	39,735 field boxes	75 field boxes	530	25	22

Table continued on next page.

Date	Description	Particulars	Debit	Credit	Balance
1900	Jan 1	Balance			100.00
	Jan 10	By Cash	50.00		150.00
	Jan 20	To Cash		25.00	125.00
	Jan 30	By Cash	75.00		200.00
	Feb 10	To Cash		50.00	150.00
	Feb 20	By Cash	100.00		250.00
	Feb 30	To Cash		75.00	175.00
	Mar 10	By Cash	125.00		300.00
	Mar 20	To Cash		100.00	200.00
	Mar 30	By Cash	150.00		350.00
	Apr 10	To Cash		125.00	225.00
	Apr 20	By Cash	175.00		400.00
	Apr 30	To Cash		150.00	250.00
	May 10	By Cash	200.00		450.00
	May 20	To Cash		175.00	275.00
	May 30	By Cash	225.00		500.00
	Jun 10	To Cash		200.00	300.00
	Jun 20	By Cash	250.00		550.00
	Jun 30	To Cash		225.00	325.00
	Jul 10	By Cash	275.00		600.00
	Jul 20	To Cash		250.00	350.00
	Jul 30	By Cash	300.00		650.00
	Aug 10	To Cash		275.00	375.00
	Aug 20	By Cash	325.00		700.00
	Aug 30	To Cash		300.00	400.00
	Sep 10	By Cash	350.00		750.00
	Sep 20	To Cash		325.00	425.00
	Sep 30	By Cash	375.00		800.00
	Oct 10	To Cash		350.00	450.00
	Oct 20	By Cash	400.00		850.00
	Oct 30	To Cash		375.00	475.00
	Nov 10	By Cash	425.00		900.00
	Nov 20	To Cash		400.00	500.00
	Nov 30	By Cash	450.00		950.00
	Dec 10	To Cash		425.00	525.00
	Dec 20	By Cash	475.00		1000.00
	Dec 30	To Cash		450.00	550.00
	Total		5000.00	5000.00	

Table 3 continued

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
August (cont.)	Grapefruit: Fumigating	2,863 acres	0.75 acre	3,816	25	153
	Totals			36,911	25	1,477 man-months
September	Alfalfa hay: Baling	2,100 tons	4 tons	525	26	21
	Beans (limas and other varieties):					
	Piling	10,793 acres	2 acres	5,397	26	208
	Threshing	87,008 cwt.†	25 bags	3,481	13	268 (from 15th to 30th)
	Sugar beets: Topping and loading	24,939 tons	4.5 tons	5,542	26	214
	Bean straw: Baling	6,750 tons	3 tons	2,250	13	173 (from 15th to 30th)
	Carrots: Weeding	247 acres	60 hours per acre	1,647	26	64
	Endive: Thinning	90 acres	0.5 acre	180	18	10 (from 1st to 21st)
	Hoeing	75 acres	1 acre	75	26	3
	Tomatoes (canning):					
	Picking	2,439 tons	1,500 pounds	3,252	26	126
	Tomatoes (market):					
	Picking	100,535 lugs	23 packed lugs	4,372	26	169
	Citrus -- Lemons:					
	Picking	102,973 field boxes	11 field boxes	9,361	26	360
	Oranges: Picking	322,652 field boxes	40 field boxes	8,067	26	311
	Grapefruit:					
	Picking	19,867 field boxes	75 field boxes	265	26	11
	Fumigating	2,863 acres	0.75 acre	3,816	26	147
	Walnuts: Harvesting by hand	3,323 tons	200 pounds ‡	33,230	26	1,279
	Totals			81,460	26	3,134 man-months
October	Alfalfa: Baling	2,100 tons	4 tons	525	25	21
	Beans (Limas and other varieties)					
	Piling	32,378 acres	2 acres	16,189	25	648
	Threshing	349,032 cwt.†	25 cwt.	13,922	25	557

Table continued on next page.

No.	Description	Quantity	Unit	Price	Total	Remarks
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Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
October (cont.)	Sugar beets: Topping and loading	15,095 tons	4.5 tons	3,355	25	135
	Bean straw: Baling	13,500 tons	3 tons	4,500	25	180
	Carrots: Weeding	176 acres	60 hours per acre	1,174	25	47
	Harvesting	4,933 crates	12 packed crates	412	14	30 (for 14 days)
	Endive: Hoeing	75 acres	1 acre	75	25	3
	Peppers (pimientos): Picking	525 tons	600 pounds	1,750	25	70
	Peppers (bell): Picking	426,377 pounds	1,200 pounds	356	25	15
	Tomatoes (canning): Picking	3,484 tons	2,000 pounds	3,484	25	140
	Tomatoes (market): Picking	160,856 lugs	23 packed lugs	6,994	25	280
	Apricots: Pruning	758 acres †	0.5 acre	1,516	25	61
	Citrus -- Lemons: Picking	119,682 field boxes	12 field boxes	9,974	25	399
	Oranges: Picking	325,192 field boxes	30 field boxes	10,840	25	434
	Grapefruit: Picking	6,623 field boxes	75 field boxes	89	25	4
	Fumigating	2,863 acres	0.75 acre	3,816	25	153
	Walnuts: Harvesting by hand	9,304 tons	200 pounds ‡	93,040	25	3,722
	Totals			172,011	25	6,881 man-months
November	Alfalfa hay: Baling	2,100 tons	4 tons	525	23	23
	Bean straw: Baling	6,750 tons	3 tons	2,250	12	188 (from 1st to 15th)
	Carrots: Weeding	317 acres	60 hours per acre	2,114	23	92
	Harvesting	14,800 crates	12 packed crates	1,234	23	54
	Endive: Cutting	3,840 crates	37 crates	104	12	9 (for 12 days)
	Peppers (pimientos): Picking	1,050 tons	800 pounds	2,625	23	115
	Peppers (bell): Picking	75,243 pounds	1,200 pounds	63	23	3
	Tomatoes (canning): Picking	1,045 tons	1,500 pounds	1,394	12	117 (from 1st to 15th)

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
November (cont.)	Tomatoes (market):					
	Picking	17,235 lugs	23 packed lugs	750	23	33
	Apricots: Pruning	758 acres †	0.5 acre	1,516	23	66
	Citrus -- Lemons:					
	Picking	119,682 field boxes	13 field boxes	9,207	23	401
	Oranges: Picking	271,840 field boxes	30 field boxes	9,062	23	394
	Fumigating	1,717 acres	0.75 acre	2,290	23	99
	Walnuts: Harvesting by hand	665 tons	200 pounds ‡	6,650	12	554 (from 1st to 15th)
December	Totals			39,784	23	1,730 man-months
	Carrots: Weeding	376 acres	60 hours per acre	2,507	21	120
	Harvesting	16,808 crates	12 packed crates	1,401	21	67
	Endive: Cutting	5,760 crates	37 crates	156	15	11 (for 15 days)
	Peas: Picking	4,915 hampers	4 hampers	1,229	8	154 (for 8 days)
	Peppers (pimientos)					
	Picking	525 tons	600 pounds	1,750	21	84
	Apricots: Pruning	758 acres †	0.5 acre	1,516	21	73
	Citrus -- Lemons:					
	Picking	235,506 field boxes	19 field boxes	12,395	21	591
	Oranges: Picking	30,487 field boxes	30 field boxes	1,016	21	48
	Totals			21,970	21	1,047 man-months

*On a monthly basis unless otherwise stated.

† Estimated portion of job done by seasonal workers.

‡ Actual average output per day per worker is probably much less than indicated.

TABLE 4
Summary of Seasonal Labor Needs by Months
Ventura County
1935

Month	Required man-days of seasonal labor	Available work days	Required man-months of seasonal labor
January	37,252	19	1,961
February	35,012	23	1,523
March	27,021	24	1,126
April	28,667	24	1,195
May	36,596	26	1,408
June	47,117	25	1,885
July	102,496	26	3,943
August	36,911	25	1,477
September	81,460	26	3,134
October	172,011	25	6,881
November	39,784	23	1,730
December	21,970	21	1,047
Total	666,297	--	27,310

Name	Age	Sex	Occupation
John Smith	25	Male	Farmer
Mary Smith	22	Female	Homemaker
Robert Smith	20	Male	Student
Elizabeth Smith	18	Female	Teacher
William Smith	15	Male	Farmer
Sarah Smith	12	Female	Homemaker
James Smith	10	Male	Student
Anna Smith	8	Female	Homemaker
Thomas Smith	6	Male	Student
Margaret Smith	4	Female	Homemaker
Charles Smith	2	Male	Student
Total	100		

Notes

Notes on Table 1.-- Production figures on lemons, oranges, and grapefruit, as given in the 1935 report of the Agricultural Commissioner, have been recalculated as follows, in order to determine the total number of field boxes picked.

Lemons:

1,600,033 packed boxes of 76 pounds net =	121,602,508 pounds
144,556 packed boxes of 76 pounds net =	10,986,256 pounds
By-products -- 16,748.5 tons =	33,497,000 pounds
Total lemon production	166,085,764 pounds

Which is equivalent to 3,321,716 field boxes of 50 pounds.

Oranges:

Valencias -- 1,360,615 packed boxes of 75 pounds net =	102,046,125 pounds
Navels -- 308,413 packed boxes of 75 pounds net =	23,130,975 pounds
Miscellaneous oranges -- 7,998 packed boxes of 75 pounds net =	599,850 pounds
Orange by-products -- 6,977 tons =	13,954,000 pounds
Total orange production	139,730,950 pounds

Which is equivalent to 2,540,563 field boxes of 55 pounds.

Grapefruit:

37,527 packed boxes of 60 pounds net =	2,251,620 pounds
Plus 15 per cent allowance for culls, estimated from data from California Arizona Orange Grapefruit Agency	397,360 pounds
Total grapefruit production	2,648,980 pounds

Which is equivalent to 66,224 field boxes of 40 pounds.

Notes on Table 2.-- Data concerning "time of need" as shown in this table break down required seasonal labor into the periods when the work is performed, in order to permit a subsequent determination of labor needs by months (table 3). Some operations are performed only to a limited extent by seasonal workers. For instance, only about 50 per cent of the pruning of apricots is estimated to be done by seasonal help. This having been done in several different months, a portion was assigned to each. Some operations are performed on only a portion of the acreage each year, as, for example, fumigation of citrus orchards, which is done on about half the acreage annually.

The amount of work done each month is based on the cropping system followed during 1935. The allotting of amounts of work is based on findings concerning local farming practices, and required time to "make" a crop resulting from inquiry of producers and records of shipments, the latter proving helpful in fixing dates of planting, and subsequent tasks involved in producing a given crop. Proportionate amounts of output harvested each month were determined from data of local practices with respect to harvesting, and from carlot shipments of perishable products and oranges. Lemon harvest by months is based on records of the monthly lemon "pick", since much of the crop is stored for considerable periods before shipment.

Notes on Table 3.-- Table 3 is the condensed summary of labor needs as worked out for Ventura County as a result of findings pertinent to 1935. The data are presented by months with the tasks which were performed in each month indicated by

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both crop and task. The size of the job was calculated from the data appearing in table 1 (acreage and production) and table 2 (task, time of performance, and percentage of work pertinent to a given month.) The output per man-day was calculated as indicated in the foreword presenting table 3. The number of required man-days is a result of dividing the size of task by output per man-day. The available days for the different tasks involve two variables. The first is the number of days when field work is possible because of favorable weather conditions. The basis for this column was determined from a study of the monthly weather charts of the United States Weather Bureau for the years 1933, 1934, and 1935. These data indicated available days per month as follows (based on a 26-day working month without allowance for holidays):

Month	Available days*	Month	Available days*
January	19	July	26
February	23	August	25
March	24	September	26
April	24	October	25
May	26	November	23
June	25	December	21

*Based on precipitation records of the Oxnard Weather Station for the years 1933, 1934, and 1935.

The second factor influencing the number of available days was the size of the job. If the output was but for a few cars, then the number of days was limited to the time needed to get out these cars efficiently. If a field operation had to be performed in a period less than the number of available days during the month, then the specific number of days was noted. These restrictions are shown in parentheses. For example, in November, baling of bean straw was limited to the first-half of the month, cutting of endive to 12 days, etc.

The totals of table 3 show the total required man-days of needed seasonal labor, the available days for field work during the month, and the number of men (as defined in the opening paragraph of table 3) required on a monthly basis to care for the tasks ordinarily performed by seasonal workers.

In an area such as Ventura County, involving a large acreage and variety of crops, the findings as set forth in this report are bound to fluctuate materially from year to year, because of the influence of market outlook upon what and how much acreage is planted and when it is planted; because of variable seasonal conditions affecting yields, times of performing operations, and available days; and because of harvesting operations on certain crops being speeded up to supply a good market or retarded to avoid a poor one, resulting in marked variations in the need for harvest labor.

both crop and task. The size of the job was calculated from the data appearing in table 1 (average and production) and table 2 (task, time of performance, and percentage of work performed to a given month). The output per man-day was calculated as indicated in the foreword presenting table 3. The number of required man-days is a result of dividing the size of task by output per man-day. The available days for the different tasks involve two variables. The first is the number of days when field work is possible because of favorable weather conditions. The basis for this column was determined from a study of the monthly weather charts of the United States Weather Bureau for the years 1933, 1934, and 1935. These data indicated available days per month as follows (based on a 28-day working month without allowance for holidays):

Month	Available days*	Month	Available days*
January	19	July	28
February	23	August	28
March	24	September	28
April	24	October	28
May	28	November	23
June	25	December	21

*Based on precipitation records of the Oxford Weather Station for the years 1933, 1934, and 1935.

The second factor influencing the number of available days was the size of the job. If the output was not for a few acres, then the number of days was limited to the time needed to get out those acre efficiently. If a field operation was performed in a period less than the number of available days during the month, then the specific number of days was noted. These restrictions are shown in parentheses for example, in November, being of bean straw was limited to the first half of the month, cutting of sod to 15 days, etc.

The totals of table 3 show the total required man-days of needed seasonal labor, the available days for field work during the month, and the number of man-days defined in the opening paragraph of table 3) required on a monthly basis to care for the tasks ordinarily performed by seasonal workers.

In an area such as Ventura County, involving a large acreage and variety of crops, the findings set forth in this report are bound to fluctuate materially from year to year, because of the influence of market outlook upon what and how much acreage is planted and when it is planted, because of variable seasonal conditions affecting yields, times of performing operations, and relative cost and means of harvesting operations on certain crops being needed in to supply a good market or to avoid a poor one, resulting in market variations in the need for harvest labor.

